AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-20 (canceled)

21. (withdrawn) A method for the study of inter-molecular interactions under physiological or near-physiological conditions, comprising:

- inserting molecules of interest, being the same or different, as functional entities (FE) in a biomolecular complex comprising at least two functional elements (FE_1, FE_2) each attached to a target molecule or area (T) through binding elements (BE), wherein each FE is attached to a specific BE, said BE being a nucleotide sequence and the target molecule or area comprising the corresponding target sequence, and the target molecules or areas being separated from each other by a first linker or spacer (L) and an optional second linker (l), said linkers being nucleic acid polymers having a pre-determined physical property; and

- varying at least one of the first and second linker (L, l) to vary orientation of the molecules and distance between the molecules.

22. (withdrawn) The method according to claim 21, wherein receptors are screened with respect to their involvement in the internalisation of substances in a cell.

23. (withdrawn) The method according to claim 22, wherein the cells are chosen among eukaryotic and prokaryotic cells, and the functional elements substituted by ligands presumed to interact with said receptors.

24-25. (canceled)

26. (currently amended) A method for the production of a biomolecular complex, ~~comprising at least two functional elements each functional element attached to a target molecule or area through binding elements, wherein each functional element is attached to a specific binding element, said binding element being a nucleotide sequence and the target molecule or area comprising a target sequence corresponding to a the specific binding element, and the target molecules or areas being separated from each other by a first linker or spacer and an optional second linker, said first and second linkers being nucleic acid polymers having a pre-determined physical property;~~ said method comprising the steps of:

i) synthesis of a molecular combination of a first functional element and a first binding element, which is a

nucleotide sequence that binds to a first target molecule or area,

ii) synthesis of a molecular combination of said first functional element and a second binding element, which is a nucleotide sequence that binds to a second target molecule or area,

iii) synthesis of a molecular combination of a second functional element and said first binding element,

iv) synthesis of a molecular combination of ~~a~~ said second functional element and said second binding element,

optionally repeating steps i) – iv) for ~~further~~ functional elements other than the first and second functional elements and binding elements other than the first and second binding elements and forming stock solutions thereof,

v) synthesis of a linker molecule that is a nucleic acid ~~molecule as a linker~~ connecting ~~a~~ said first and second target molecules or areas, and

vi) reacting said linker molecule connecting said first and second target molecules or areas of step v) with the molecular combination of any one of steps i) – iv) to obtain self-assembly of the molecular combination ~~combinations of any one of step i) – iv)~~ to the linker molecule ~~of step v)~~ in the desired configuration ~~by addition of said linker~~ in solution,

to produce said biomolecular complex comprising at least said first and second functional elements, wherein each

said first and second functional elements is attached to one of said first and second binding elements that are in turn attached to one of said first and second target molecules or areas, wherein said first and second target molecules or areas are connected to each other by said linker molecule and optionally a second linker molecule, wherein said linker molecules are nucleic acid polymers having a pre-determined physical property.

27. (currently amended) The method according to claim 34, wherein the linker molecule of step (d) comprises a marker or label chosen among a reporter gene, a radioactive label, and a fluorescent label.

28. (currently amended) The method according to claim 34, wherein the at least two binding elements of step (c) are peptide nucleic acids (PNA) sequences.

29. (canceled)

30. (currently amended) The method according to claim 34, wherein the first and second functional elements are chosen among a natural or synthetic peptide, a lipid, a glycoprotein, a receptor ligand, and a fraction thereof ~~of any of the preceding~~.

31-33. (canceled)

34. (currently amended) A method for the production of a biomolecular complex, said method comprising:

(a) providing a solution comprising a first functional element adapted to attach to a specific binding element, which in turn is adapted to attach to a first target molecule or area,

(b) providing a solution comprising a second functional element adapted to attach to a specific binding element, which in turn is adapted to attach to a second target molecule or area,

(c) providing separate solutions of at least two said binding elements, each binding element being a nucleotide sequence,

(d) providing separate stock solutions of linker molecules that are ~~each comprising~~ nucleic acid molecules ~~as linker molecules, each solution containing a linker molecule~~ having a distinct physical property,

(e) reacting said first functional element of step (a) with at least one of said binding elements of step (c) to form a combination thereof,

(f) reacting said second functional element of step (b) with at least one of said binding elements of step (c) other than the binding element used in step (e) to form a combination thereof,

(g) optionally repeating steps (e) and (f) for each of said first and second functional elements,

(h) reacting each linker molecule from step (d) with at least said first and second ~~two~~ target molecules or areas each having a target sequence capable of specific binding to the binding elements of steps (e) and (f) to form a combination of functional elements attached to ~~a~~ specific binding ~~element~~ elements and target ~~molecule~~ molecules,

(i) reacting each combination of said first and second functional elements attached to specific binding elements of steps (e) and (f) with each linker molecule of step (h), and

(j) repeating step (h) in order to form a library of combinations of functional elements and said linkers

to produce said biomolecular complex comprising said first and second functional elements, wherein:

said first functional element is attached to a specific binding element, which in turn is attached to the first target molecule or area,

said second functional element is attached to a specific binding element, which in turn is attached to the second target molecule or area, and

the first and second target molecules or areas are attached by at least one first linker molecule and optionally a second linker molecule.